Metadata for
Zion National Park,
Field Plots Data Base for Vegetation Mapping

Identification_Information:
 Citation:
  Citation_Information:
   Originator: U.S. Bureau of Reclamation's Remotes Sensing and GIS Group, Denver, Colorado
   Publication_Date: Unpublished Material
   Title: Zion National Park Vegetation Mapping Project Vegetation Plots
   Geospatial_Data_Presentation_Form: vector digital data
   Online_Linkage: http://biology.usgs.gov/npsveg/zion/fielddata.html
 Description:
  Abstract: This metadata is for the vegetation data points spatial database created at/for Zion National Park, Utah.
  Purpose: Plots were collected to characterize the vegetation at Zion National Park. This GIS layer was created from
     the GPS coordinates recorded at the center of each plot to map their distribution and location in the Park.
  Supplemental_Information: This GIS layer was created from the GPS coordinates recorded at the center of each plot.
 Time_Period_of_Content:
  Time_Period_Information:
   Single_Date/Time:
    Calendar_Date: Unknown
  Currentness_Reference: ground condition
 Status:
  Progress: Complete
  Maintenance_and_Update_Frequency: None planned
 Spatial_Domain:
  Description_of_Geographic_Extent: Zion National Park and environs
  Bounding_Coordinates:
   West_Bounding_Coordinate: -113.227522
   East_Bounding_Coordinate: -112.866609
   North_Bounding_Coordinate: 37.511325
   South_Bounding_Coordinate: 37.137009
 Keywords:
  Theme:
   Theme_Keyword_Thesaurus: None
   Theme_Keyword: Vegetation Plots
   Theme_Keyword: Ground Cover
   Theme_Keyword: Land Cover
   Theme_Keyword: Vegetation
   Theme_Keyword: Plots
  Place:
   Place_Keyword_Thesaurus: None
   Place_Keyword: Zion National Park
   Place_Keyword: National Park Service
   Place_Keyword: Utah
   Place_Keyword: Springdale, Utah
   Place_Keyword: Colorado Plateau
 Taxonomy:
  Keywords/Taxon:
   Taxonomic_Keyword_Thesaurus: None
   Taxonomic_Keywords: Standardized National Vegetation Classification System
   Taxonomic_Keywords: vegetation classification
   Taxonomic_Keywords: alliance
   Taxonomic_Keywords: community association

    Taxonomic_Classification:
      Taxon_Rank_Name: Kingdom
      Taxon_Rank_Value: Plantae
  Access_Constraints: None
  Use_Constraints: Acknowledgment of the USBR Remote Sensing and GIS Group would be appreciated in products
      derived from these data. Any person using the information presented here should fully understand the data
      collection and compilation process before beginning their analysis/use. The burden of determining fitness for use
      lies with the user.
  Point_of_Contact:
    Contact_Information:
      Contact_Organization_Primary:
        Contact_Organization: U.S. Bureau of Reclamation's (USBR) Remote Sensing and GIS Group
        Contact_Person: Dan Cogan
      Contact_Position: Physical Scientist
      Contact_Address:
        Address_Type: mailing address
        Address: USBR, Code D-8260, POB 25007
        City: Denver
        State_or_Province: Colorado
        Postal_Code: 80225
        Country: USA
      Contact_Voice_Telephone: (303) 445-2291
      Contact_Facsimile_Telephone: (303) 445-6337
      Contact_Electronic_Mail_Address: dcogan@do.usbr.gov
      Hours_of_Service: 7:30 AM to 4:00 PM MST
      Contact_Instructions: Call for contract person(s)
  Browse_Graphic:
    Browse_Graphic_File_Name: http://biology.usgs.gov/npsveg/zion/images/zionplot.jpg
    Browse_Graphic_File_Description:
    Graphic file showing vegetation filed plot
    locations. Low resolution for web browser - 356 KB file size.
    Browse_Graphic_File_Type: JPG
  Data_Set_Credit: USBR, Denver, CO: Daniel Cogan, Janet Coles, Doug Crawford, Trudy Meyer, Jean Pennel, ZION:
      Jeff Bradybaugh, Elena Robish; NatureServe, Boulder, CO: Marion Reid, Keith Schulz.
  Native_Data_Set_Environment: Microsoft Windows 2000 Version 5.1 (Build 2600) Service Pack 1; ESRI ArcCatalog
      8.2.0.700.

Data_Quality_Information:
  Attribute_Accuracy:
    Attribute_Accuracy_Report: N/A
  Logical_Consistency_Report: None
  Completeness_Report: All plots collected at Zion National Park for this project are included in this coverage.
  Positional_Accuracy:
    Horizontal_Positional_Accuracy:
      Horizontal_Positional_Accuracy_Report: GPS accuracy varies for each plot. Error values were recorded on the plot
        form.
    Vertical_Positional_Accuracy:
      Vertical_Positional_Accuracy_Report: Standard GPS Elevation Error.
  Lineage:
    Source_Information:
      Source_Citation:
        Citation_Information:
          Originator: U.S. Bureau of Reclamation's Remotes Sensing and GIS Group, Denver, Colorado
          Publication_Date: Unpublished Material
          Title: Zion National Park Vegetation Mapping Project Vegetation Plots
          Geospatial_Data_Presentation_Form: vector digital data

   Type_of_Source_Media: CD-ROM
   Source_Time_Period_of_Content:
    Time_Period_Information:
     Multiple_Dates/Times:
      Single_Date/Time:
       Calendar_Date: 1999
      Single_Date/Time:
       Calendar_Date: 2003
    Source_Currentness_Reference: ground condition
   Source_Citation_Abbreviation: Vegetation Sample Plots
   Source_Contribution: Unknown
  Process_Step:
   Process_Description: Plots were subjectively places by qualified ecologists to characterize the plant communities.
    Portions of the methodology were derived from the USGS/NPS Vegetation Mapping Program's Field Methods for
    Vegetation Mapping standard. Vegetation data in each sample plot was recorded by qualified ecologists using a
    standard NVC plot data collection form. Data was manually transferred to a MS Access database. Point coverage
    was created by importing the database into ArcView as an event theme.
   Process_Date: Unknown
   Process_Contact:
    Contact_Information:
     Contact_Person_Primary:
      Contact_Person: Dan Cogan
      Contact_Organization: Bureau of Reclamation
     Contact_Position: Physical Scientist
     Contact_Address:
      Address_Type: mailing and physica address
      Address: P.O. Box 25007 Bldg. 56 Denver Federal Center M.S. D-8260
      City: Denver
      State_or_Province: Colorado
      Postal_Code: 80225
      Country: U.S.A
     Contact_Voice_Telephone: (303) 445-2291
     Contact_TDD/TTY_Telephone: (303) 445-2266
     Contact_Facsimile_Telephone: (303) 445-6337
     Contact_Electronic_Mail_Address: dcogan@do.usbr.gov
     Hours_of_Service: 8 am - 5 pm

Spatial_Data_Organization_Information:
 Direct_Spatial_Reference_Method: Vector
 Point_and_Vector_Object_Information:
  SDTS_Terms_Description:
   SDTS_Point_and_Vector_Object_Type: Entity point
   Point_and_Vector_Object_Count: 346

Spatial_Reference_Information:
 Horizontal_Coordinate_System_Definition:
  Planar:
   Grid_Coordinate_System:
    Grid_Coordinate_System_Name: Universal Transverse Mercator
    Universal_Transverse_Mercator:
     UTM_Zone_Number: 12
     Transverse_Mercator:
      Scale_Factor_at_Central_Meridian: 0.9996
      Longitude_of_Central_Meridian: -111
      Latitude_of_Projection_Origin: 0
      False_Easting: 500000

     False_Northing: 0
   Planar_Coordinate_Information:
    Planar_Coordinate_Encoding_Method: Coordinate Pair
    Coordinate_Representation:
      Abscissa_Resolution: 0.000064
      Ordinate_Resolution: 0.000064
    Planar_Distance_Units: meters
  Geodetic_Model:
   Horizontal_Datum_Name: North American Datum of 1983
   Ellipsoid_Name: Geodetic Reference System 80
   Semi-major_Axis: 6378137
   Denominator_of_Flattening_Ratio: 298.257

Entity_and_Attribute_Information:
 Overview_Description:
  Entity_and_Attribute_Overview: Attributes were either generated by ArcInfo or assigned by the USBR Remote
      Sensing GIS Group.
  Entity_and_Attribute_Detail_Citation: Zion National Park Vegetation Mapping Project Final Report (DOI –
     USGS/USBR).
 Detailed_Description:
  Entity_Type:
   Entity_Type_Label: zion_plots
   Entity_Type_Definition: Zion National Park Vegetation Mapping Project: Vegetation Plot Coverage Point
Attribute Table
   Entity_Type_Definition_Source: Dan Cogan USBR Remote Sensing and GIS Group
  Attribute:
   Attribute_Label: %_BEDROCK
   Attribute_Definition: Percent cover of exposed bedrock.
   Attribute_Definition_Source: NatureServe Plot Form - Field Crews
   Attribute_Domain_Values:
    Range_Domain:
     Range_Domain_Minimum: 0
     Range_Domain_Maximum: 100
     Attribute_Units_of_Measure: Percentage (i.e. 25.000 = 25%)
  Attribute:
   Attribute_Label: %_LITTER
   Attribute_Definition: Percent cover of litter and duff.
   Attribute_Definition_Source: NatureServe Plot Form - Field Crews
   Attribute_Domain_Values:
    Range_Domain:
     Range_Domain_Minimum: 0
     Range_Domain_Maximum: 100
     Attribute_Units_of_Measure: Percentage (i.e. 25.000 = 25%)
  Attribute:
   Attribute_Label: %_LROCKS
   Attribute_Definition: Percent cover of large rocks (cobbles, boulders > 10 cm).
   Attribute_Definition_Source: NatureServe Plot Form - Field Crews
   Attribute_Domain_Values:
    Range_Domain:
     Range_Domain_Minimum: 0
     Range_Domain_Maximum: 100
     Attribute_Units_of_Measure: Percentage (i.e. 25.000 = 25%)
  Attribute:
   Attribute_Label: %_OTHER
   Attribute_Definition: Percent cover of any other unvegetated surface.
   Attribute_Definition_Source: NatureServe Plot Form - Field Crews

Attribute_Domain_Values:
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Percentage (i.e. 25.000 = 25%)
Attribute:
 Attribute_Label: %_SAND
 Attribute_Definition: Percent cover of sand (0.1-2 mm).
 Attribute_Definition_Source: NatureServe Plot Form - Field Crews
 Attribute_Domain_Values:
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Percentage (i.e. 25.000 = 25%)
Attribute:
 Attribute_Label: %_SOIL
 Attribute_Definition: Percent cover of bare soil.
 Attribute_Definition_Source: NatureServe Plot Form - Field Crews
 Attribute_Domain_Values:
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Percentage (i.e. 25.000 = 25%)
Attribute:
 Attribute_Label: %_SROCKS
 Attribute_Definition: Percent cover of small rocks (gravel, 0.2-10 cm).
 Attribute_Definition_Source: NatureServe Plot Form - Field Crews
 Attribute_Domain_Values:
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Percentage (i.e. 25.000 = 25%)
Attribute:
 Attribute_Label: %_WATER
 Attribute_Definition: Percent cover of standing water.
 Attribute_Definition_Source: NatureServe Plot Form - Field Crews
 Attribute_Domain_Values:
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Percentage (i.e. 25.000 = 25%)
Attribute:
 Attribute_Label: %_WOOD
 Attribute_Definition: Percent cover of dead and down wood.
 Attribute_Definition_Source: NatureServe Plot Form - Field Crews
 Attribute_Domain_Values:
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Percentage (i.e. 25.000 = 25%)
Attribute:
 Attribute_Label: ANIMAL_USE
 Attribute_Definition: General comments on any evidence of use of the plot/polygon by non-domestic animals (i.e., tracks, scat, gopher or prairie dog mounds, etc.).
 Attribute_Definition_Source: Field Crews
 Attribute_Domain_Values:

Unrepresentable_Domain: Textual description of animal use.
Attribute:
 Attribute_Label: ASPECT
 Attribute_Definition: Average aspect of the sample plot.
 Attribute_Definition_Source: Field Crews
 Attribute_Domain_Values:
  Enumerated_Domain:
   Enumerated_Domain_Value: N
   Enumerated_Domain_Value_Definition: North
   Enumerated_Domain_Value_Definition_Source: Aspect of the slope; measured using a compass.
  Enumerated_Domain:
   Enumerated_Domain_Value: NE
   Enumerated_Domain_Value_Definition: North East
   Enumerated_Domain_Value_Definition_Source: Aspect of the slope; measured using a compass.
  Enumerated_Domain:
   Enumerated_Domain_Value: E
   Enumerated_Domain_Value_Definition: East
   Enumerated_Domain_Value_Definition_Source: Aspect of the slope; measured using a compass.
  Enumerated_Domain:
   Enumerated_Domain_Value: SE
   Enumerated_Domain_Value_Definition: Southeast
   Enumerated_Domain_Value_Definition_Source: Aspect of the slope; measured using a compass.
  Enumerated_Domain:
   Enumerated_Domain_Value: S
   Enumerated_Domain_Value_Definition: South
   Enumerated_Domain_Value_Definition_Source: Aspect of the slope; measured using a compass.
  Enumerated_Domain:
   Enumerated_Domain_Value: SW
   Enumerated_Domain_Value_Definition: Southwest
   Enumerated_Domain_Value_Definition_Source: Aspect of the slope; measured using a compass.
  Enumerated_Domain:
   Enumerated_Domain_Value: W
   Enumerated_Domain_Value_Definition: West
   Enumerated_Domain_Value_Definition_Source: Aspect of the slope; measured using a compass.
  Enumerated_Domain:
   Enumerated_Domain_Value: NW
   Enumerated_Domain_Value_Definition: Northwest
   Enumerated_Domain_Value_Definition_Source: Aspect of the slope; measured using a compass.
  Enumerated_Domain:
   Enumerated_Domain_Value: Flat (n/a)
   Enumerated_Domain_Value_Definition: No aspect
   Enumerated_Domain_Value_Definition_Source: Aspect of the slope; measured using a compass.
  Enumerated_Domain:
   Enumerated_Domain_Value: Variable
   Enumerated_Domain_Value_Definition: No consistent slope
   Enumerated_Domain_Value_Definition_Source: Aspect of the slope; measured using a compass.
Attribute:
 Attribute_Label: CLASS_NAME
 Attribute_Definition: NVC classified plant association name as determined by the NatureServe Regional
  Ecologists.
 Attribute_Definition_Source: NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual class name.
Attribute:
 Attribute_Label: COMMENTS
 Attribute_Definition: General comments about the sample plot.

Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
  Unrepresentable_Domain: Textual of other general description.
Attribute:
 Attribute_Label: CORRECT_X
 Attribute_Definition: Corrected (Final) UTM X Value.
 Attribute_Definition_Source: Field Crews - GPS Units and USBR Remote Sensing and GIS Group
 Attribute_Domain_Values:
  Unrepresentable_Domain: Numerical of X universal transverse mercator location description.
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Meters
 Attribute_Value_Accuracy_Information:
  Attribute_Value_Accuracy: 0 (unknown)
  Attribute_Value_Accuracy_Explanation: UTM Values were reprojected to NAD83 by USBR using NADCON for
         those points recorded in UTM NAD27.
Attribute:
 Attribute_Label: CORRECT_Y
 Attribute_Definition: Corrected (Final) UTM Y Value.
 Attribute_Definition_Source: Field Crews - GPS Units and USBR Remote Sensing and GIS Group
 Attribute_Domain_Values:
  Unrepresentable_Domain: Numerical of Y universal transverse mercator location description.
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Meters
 Attribute_Value_Accuracy_Information:
  Attribute_Value_Accuracy: 0 (unknown)
  Attribute_Value_Accuracy_Explanation: UTM Values were reprojected to NAD83 by USBR using NADCON for
         those points recorded in UTM NAD27.
Attribute:
 Attribute_Label: COWARDIN
 Attribute_Definition: The USFWS system which best describes the hydrology and landform or the accuracy
   assessment point. "Upland" is used if the system is not a wetland.
 Attribute_Definition_Source: Cowardian et al. 1979. Classification of Wetlands and Deepwater Habitats of the
   United States. US Fish and Wildlife Service National Wetlands Inventory.
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual cowadrin classification description.
Attribute:
 Attribute_Label: DATE
 Attribute_Definition: Date that the Sample Plot was completed in the field.
 Attribute_Definition_Source: Field Crews
 Attribute_Domain_Values:
  Unrepresentable_Domain: Numerical of the date the plot was observed.
Attribute:
 Attribute_Label: DIRECTIONS
 Attribute_Definition: Precise directions to the site using a landmark readily locatable on a 7.5 minute topo map as
   the starting point. Distances are presented as closely as possible to 0.1 mile with compass directions. Additional
   directions to the plot within the site may be provided.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual direction description of locations.
Attribute:
 Attribute_Label: DISTURB
 Attribute_Definition: General comments about any visible disturbance.

Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
  Unrepresentable_Domain: Textual description of other disturbance.
Attribute:
Attribute_Label: DRAINAGE
Attribute_Definition: General description of the soil drainage at the plot. Classes were defined in terms of (1) actual
  moisture content (in excess of field moisture capacity) and (2) the extent of the period during which excess water
  is present in the plant-root zone. It is recognized that permeability, level of groundwater, and seepage are factors
  affecting moisture status. Soil drainage classes were sometimes based on the presence or absence of mottling.
  Topographic position and vegetation as well as soil morphology were also used for assessing soil moisture status.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
  Enumerated_Domain:
    Enumerated_Domain_Value: Rapidly Drained
    Enumerated_Domain_Value_Definition: The soil moisture content seldom exceeds field capacity in any horizon
        except immediately after water addition. Soils are free from any evidence of gleying throughout the profile.
        Rapidly drained soils are commonly coarse textured or soils on steep slopes.
    Enumerated_Domain_Value_Definition_Source: Zion National Park
  Enumerated_Domain:
    Enumerated_Domain_Value: Well Drained
    Enumerated_Domain_Value_Definition: The soil moisture content does not normally exceed field capacity in
        any horizon (except possibly the C) for a significant part of the year. Soils are usually free from mottling in
        the upper 3 feet, but may be mottled below this depth. B horizons, if present, are reddish, brownish, or
        yellowish.
    Enumerated_Domain_Value_Definition_Source: Zion National Park
  Enumerated_Domain:
    Enumerated_Domain_Value: Moderately Well Drained
    Enumerated_Domain_Value_Definition: - The soil moisture in excess of field capacity remains for a small but
        significant period of the year. Soils are commonly mottled (chroma < 2) in the lower B and C horizons or
        below a depth of 2 feet. The Ae horizon, if present, may be faintly mottled in fine-textured soils and in
        medium-textured soils that have a slowly permeable layer below the solum. In grassland soils the B and C
        horizons may be only faintly mottled and the A horizon may be relatively thick and dark.
    Enumerated_Domain_Value_Definition_Source: Zion National Park
  Enumerated_Domain:
    Enumerated_Domain_Value: Somewhat Poorly Drained
    Enumerated_Domain_Value_Definition: The soil moisture in excess of field capacity remains in subsurface
        horizons for moderately long periods during the year. Soils are commonly mottled in the B and C horizons;
        the Ae horizon, if present, may be mottled. The matrix generally has a lower chroma than in the well-drained
        soil on similar parent material.
    Enumerated_Domain_Value_Definition_Source: Zion National Park
  Enumerated_Domain:
    Enumerated_Domain_Value: Poorly Drained
    Enumerated_Domain_Value_Definition: The soil moisture in excess of field capacity remains in all horizons for
        a large part of the year. The soils are usually very strongly gleyed. Except in high-chroma parent materials
        the B, if present, and upper C horizons usually have matrix colors of low chroma. Faint mottling may occur
        throughout.
    Enumerated_Domain_Value_Definition_Source: Zion National Park
  Enumerated_Domain:
    Enumerated_Domain_Value: Very Poorly Drained
    Enumerated_Domain_Value_Definition: Free water remains at or within 12 inches of the surface most of the
        year. The soils are usually very strongly gleyed. Subsurface horizons usually are of low chroma and
        yellowish to bluish hues. Mottling may be present but at the depth in the profile. Very poorly drained soils
        usually have a mucky or peaty surface horizon.
    Enumerated_Domain_Value_Definition_Source: Zion National Park
Attribute:
Attribute_Label: ELCODE

Attribute_Definition: NVC Code to Classified Plant Association.
Attribute_Definition_Source: NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: Textual and numerical code.
Attribute:
Attribute_Label: ELEV_UNITS
Attribute_Definition: Elevation Units used to record the elevation of the Accuracy Assessment Point.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 1
Enumerated_Domain_Value_Definition: Meters
Enumerated_Domain_Value_Definition_Source: Zion National Park
Enumerated_Domain:
Enumerated_Domain_Value: 2
Enumerated_Domain_Value_Definition: Feet
Enumerated_Domain_Value_Definition_Source: Zion National Park
Attribute:
Attribute_Label: ELEVATION
Attribute_Definition: Elevation of the Sample Plots.
Attribute_Definition_Source: Field Crews - GPS Units
Attribute_Domain_Values:
Unrepresentable_Domain: Textual of elevation description.
Attribute:
Attribute_Label: ENVIRO
Attribute_Definition: General environmental comments about the sample plots.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: Textual of environment description.
Attribute:
Attribute_Label: FID
Attribute_Definition: Internal feature number.
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Sequential unique whole numbers that are automatically generated.
Attribute:
Attribute_Label: FRAME
Attribute_Definition: Frame number of the photos taked for each sample plot.
Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
Unrepresentable_Domain: Whole number of the plots photo frame.
Attribute:
Attribute_Label: GEOLOGY
Attribute_Definition: Surficial geology noting the geologic substrate influencing the plant community (bedrock or
surficial materials).
Attribute_Definition_Source: Field Crews, USGS and NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: Textual description of the geology surface.
Attribute:
Attribute_Label: GPS_FILE
Attribute_Definition: GPS way point (WP) numbers and/or known datum projection information.
Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
Unrepresentable_Domain: Values may represent one or more of the following: 1. +/- xx indicates GPS error in
meters, 2. x.x may indicate GPS error in meters, 3. xxx may indicate downloadable GPS file names.
Attribute:

Attribute_Label: GPS_TECH
Attribute_Definition: The name of the GPS receiver used, other methods used to record location, +/-GPS error readings, and/or general comments about the GPS Techniques used.
Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
 Unrepresentable_Domain: PLGR = "Personal Lightweight GPS Receiver" made by Rockwell CO for the U.S. Military.
Attribute:
 Attribute_Label: H_COVER
 Attribute_Definition: Percent cover of the Herbaceous stratum for each sample plot.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Range_Domain:
   Range_Domain_Minimum: 0
   Range_Domain_Maximum: 100
   Attribute_Units_of_Measure: Midpoint of the Cover Scale = Percentage (i.e. 80 = 80%).
Attribute:
 Attribute_Label: H_HGT
 Attribute_Definition: Average height of the Herbaceous stratum for each sample plot.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Range_Domain:
   Range_Domain_Minimum: 0
   Range_Domain_Maximum: 100
   Attribute_Units_of_Measure: Range in meters (i.e. 0.5 - 1 m)
Attribute:
 Attribute_Label: HYDRO
 Attribute_Definition: The hydrologic regime of the plot using general descriptions.
 Attribute_Definition_Source: NatureServe - adapted from Cowardin et al. 1979
 Attribute_Domain_Values:
  Enumerated_Domain:
   Enumerated_Domain_Value: SEMIPERMANENTLY FLOODED
   Enumerated_Domain_Value_Definition: Surface water persists throughout growing season in most years except during periods of drought. Land surface is normally saturated when water level drops below soil surface. Includes Cowardin's Intermittently Exposed and Semipermanently Flooded modifiers.
   Enumerated_Domain_Value_Definition_Source: Zion National Park, Utah
  Enumerated_Domain:
   Enumerated_Domain_Value: SEASONALLY FLOODED
   Enumerated_Domain_Value_Definition: Surface water is present for extended periods during the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is very variable, extending from saturated to a water table well below the ground surface. Includes Cowardin's Seasonal, Seasonal-Saturated, and Seasonal-Well Drained modifiers.
   Enumerated_Domain_Value_Definition_Source: Zion National Park, Utah
  Enumerated_Domain:
   Enumerated_Domain_Value: SATURATED
   Enumerated_Domain_Value_Definition: Surface water is seldom present, but substrate is saturated to surface for extended periods during the growing season. Equivalent to Cowardin's Saturated modifier.
   Enumerated_Domain_Value_Definition_Source: Zion National Park, Utah
  Enumerated_Domain:
   Enumerated_Domain_Value: TEMPORARILY FLOODED
   Enumerated_Domain_Value_Definition: Surface water present for brief periods during growing season, but water table usually lies well below soil surface. Often characterizes flood-plain wetlands. Equivalent to Cowardin's Temporary modifier.
   Enumerated_Domain_Value_Definition_Source: Zion National Park, Utah
  Enumerated_Domain:
   Enumerated_Domain_Value: INTERMITTENTLY FLOODED

Enumerated_Domain_Value_Definition: Substrate is usually exposed, but surface water can be present for variable periods without detectable seasonal periodicity. Inundation is not predictable to a given season and is dependent upon highly localized rain storms. This modifier was developed for use in the arid West for water regimes of Playa lakes, intermittent streams, and dry washes but can be used in other parts of the U.S. where appropriate. This modifier can be applied to both wetland and non-wetland situations. Equivalent to Cowardin's Intermittently Flooded modifier.
Enumerated_Domain_Value_Definition_Source: Zion National Park, Utah
Enumerated_Domain:
Enumerated_Domain_Value: PERMANENTLY FLOODED
Enumerated_Domain_Value_Definition: Water covers the land surface at all times of the year in all years. Equivalent to Cowardin's "permanently flooded."
Enumerated_Domain_Value_Definition_Source: Zion National Park, Utah
Enumerated_Domain:
Enumerated_Domain_Value: UNKNOWN
Enumerated_Domain_Value_Definition: The water regime of the area is not known. The unit is simply described as a non-tidal wetland.
Enumerated_Domain_Value_Definition_Source: Zion National Park, Utah
Attribute:
Attribute_Label: LANDFORM
Attribute_Definition: The landform that describes the site where the plot was taken.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: Textual of landform description.
Attribute:
Attribute_Label: LANDSCAPE
Attribute_Definition: General comments about the landscape surrounding the sample plot.
Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
Unrepresentable_Domain: Textual of landscape description.
Attribute:
Attribute_Label: LEAF_TYPE
Attribute_Definition: The leaf type of the dominant stratum. The dominant stratum is the uppermost stratum that contains at least 10% cover.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: Textual of leaf type description.
Attribute:
Attribute_Label: LOCATION
Attribute_Definition: The location of the sample plot.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: ZION
Enumerated_Domain_Value_Definition: Zion National Park
Enumerated_Domain_Value_Definition_Source: Zion National Park, Utah
Enumerated_Domain:
Enumerated_Domain_Value: Environs
Enumerated_Domain_Value_Definition: Lands surrounding Zion National Park
Enumerated_Domain_Value_Definition_Source: Zion National Park, Utah
Attribute:
Attribute_Label: N_COVER
Attribute_Definition: Percent cover of the Non-vascular stratum for each sample plot.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 0

   Range_Domain_Maximum: 100
   Attribute_Units_of_Measure: Midpoint of the Cover Scale = Percentage (i.e. 80 = 80%)
Attribute:
 Attribute_Label: N_HGT
 Attribute_Definition: Average height of the Non-vascular stratum for each sample plot.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Range_Domain:
   Range_Domain_Minimum: 0
   Range_Domain_Maximum: 100
   Attribute_Units_of_Measure: Range in meters (i.e. 0.5 - 1 m)
Attribute:
 Attribute_Label: OPT1
 Attribute_Definition: Optional Field 1. This was used at ZION to record the fire fuel model number for some of
  the sample plots.
 Attribute_Definition_Source: Field Crews
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual classification comments.
Attribute:
 Attribute_Label: OPTIONAL
 Attribute_Definition: Optional Field Description.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual classification comments.
Attribute:
 Attribute_Label: OTHER
 Attribute_Definition: Description of "%_Other"
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual misc. comments.
Attribute:
 Attribute_Label: OTHER1
 Attribute_Definition: Other Measure 1 (Number of trees with certain DBH)
 Attribute_Definition_Source: Field Crews
 Attribute_Domain_Values:
  Unrepresentable_Domain: Numerical measure of trees in DBH.
Attribute:
 Attribute_Label: OTHER2
 Attribute_Definition: Other Measure 2 (Misc. Measurements)
 Attribute_Definition_Source: Field Crews
 Attribute_Domain_Values:
  Unrepresentable_Domain: Numerical misc. measure.
Attribute:
 Attribute_Label: PERMANENT
 Attribute_Definition: Check off that the plot has been permanently marked Yes/No.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual of yes/no for permanent plots.
Attribute:
 Attribute_Label: PHENOLOGY
 Attribute_Definition: The leaf phenology of the dominant stratum. The dominant stratum is the uppermost stratum
  that contains at least 10% cover.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual of leaf phenology type description.
Attribute:

Attribute_Label: PHYSIO
Attribute_Definition: The physiognomic class of the dominant stratum (i.e. Woodland, Shrubland, etc.). The dominant stratum is the uppermost stratum that contains at least 10% cover.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: Textual of physiology class type description.
Attribute:
Attribute_Label: PLOT_CODE
Attribute_Definition: Code indicating the specific plot within the vegetation polygon. For the 1999 field season the codes were RH-Zion XXX and for the 2000 field season, the codes were ZION.XXX.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: User-defined feature number.
Attribute:
Attribute_Label: PLOT_SHAPE
Attribute_Definition: The shape of the sample plot.
Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
Unrepresentable_Domain: Textual defining the shape of the plot.
Attribute:
Attribute_Label: PROV_NAME
Attribute_Definition: The provisional name of the vegetation plot assigned by the field crews using either the preliminary list of plant associations or the names of the dominant species.
Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
Unrepresentable_Domain: Textual defining the provisional name (common name) of the association.
Attribute:
Attribute_Label: QUAD
Attribute_Definition: Appropriate name/scale from survey map used; use 7.5-minute quadrangle if possible.
Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
Unrepresentable_Domain: Textual quadrangle map name.
Attribute:
Attribute_Label: QUAD_CODE
Attribute_Definition: Code to the USGS 7.5. Minute Topographic Map
Attribute_Definition_Source: USGS
Attribute_Domain_Values:
Unrepresentable_Domain: Numerical and textual quadrangle code for location of plots on topographic map.
Attribute:
Attribute_Label: REPRESENT
Attribute_Definition: Comments on the plot's ability to represent the stand or polygon as one component and the ability of this sample to represent the range of variability of the association in the entire mapping area.
Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
Unrepresentable_Domain: Textual of representiveness description.
Attribute:
Attribute_Label: ROLL
Attribute_Definition: Roll number of the photos taked for each sample plot.
Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
Unrepresentable_Domain: Textual and numerical of roll number (whole numbers).
Attribute:
Attribute_Label: S1_COVER
Attribute_Definition: Percent cover of the Tall Shrub stratum for each sample plot.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:

     Unrepresentable_Domain: Numerical of S1 cover (whole numbers).
    Range_Domain:
     Range_Domain_Minimum: 0
     Range_Domain_Maximum: 100
     Attribute_Units_of_Measure: Midpoint of the Cover Scale = Percentage (i.e. 80 = 80%)
  Attribute:
  Attribute_Label: S1_HGT
  Attribute_Definition: Average height of the Tall Shrub stratum for each sample plot.
  Attribute_Definition_Source: Field Crews and NatureServe
  Attribute_Domain_Values:
   Unrepresentable_Domain: Textual and numerical of S1 height (whole & decimal numbers).
   Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Range in meters (i.e. 0.5 - 1 m)
  Attribute:
  Attribute_Label: S2_COVER
  Attribute_Definition: Percent cover of the Short Shrub stratum for each sample plot.
  Attribute_Definition_Source: Field Crews and NatureServe
  Attribute_Domain_Values:
   Unrepresentable_Domain: Numerical of S2 cover (whole numbers).
   Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Midpoint of the Cover Scale = Percentage (i.e. 80 = 80%)
  Attribute:
  Attribute_Label: S2_HGT
  Attribute_Definition: Average height of the Short Shrub stratum for each sample plot.
  Attribute_Definition_Source: Field Crews and NatureServe
  Attribute_Domain_Values:
   Unrepresentable_Domain: Textual and numerical of S2 height (whole & decimal numbers).
   Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Range in meters (i.e. 0.5 - 1 m)
  Attribute:
  Attribute_Label: S3_COVER
  Attribute_Definition: Percent cover of the Dwarf-shrub stratum for each sample plot.
  Attribute_Definition_Source: Field Crews and NatureServe
  Attribute_Domain_Values:
   Unrepresentable_Domain: Numerical of S3 cover (whole numbers).
   Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Midpoint of the Cover Scale = Percentage (i.e. 80 = 80%)
  Attribute:
  Attribute_Label: S3_HGT
  Attribute_Definition: Average height of the Dwarf-shrub stratum for each sample plot.
  Attribute_Definition_Source: Field Crews and NatureServe
  Attribute_Domain_Values:
   Unrepresentable_Domain: Textual and numerical of S3 height (whole & decimal numbers).
   Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Range in meters (i.e. 0.5 - 1 m)
  Attribute:

Attribute_Label: Shape
 Attribute_Definition: Feature geometry.
 Attribute_Definition_Source: ESRI
 Attribute_Domain_Values:
  Unrepresentable_Domain: Coordinates defining the features.
Attribute:
 Attribute_Label: SLOPE
 Attribute_Definition: General description of the average slope of the sample plot.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual of slope type description.
Attribute:
 Attribute_Label: SPECIES
 Attribute_Definition: The number of plant species recorded for each sample plot.
 Attribute_Definition_Source: Field Crews
 Attribute_Domain_Values:
  Unrepresentable_Domain: Numerical count of plant species at each accuracy assessment point.
Attribute:
 Attribute_Label: SUB_LOC
 Attribute_Definition: The sub-location of the sample plot within Zion National Park.
 Attribute_Definition_Source: Field Crews
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual description of the sub-location.
Attribute:
 Attribute_Label: SURVEYORS
 Attribute_Definition: The last names and/or initials of the field crews.
 Attribute_Definition_Source: Field Crews
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual surveyors last names and/or initials.
Attribute:
 Attribute_Label: T1_COVER
 Attribute_Definition: Percent cover of the Emergent Tree stratum for each sample plot.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Numerical of T1 cover (whole numbers).
  Range_Domain:
   Range_Domain_Minimum: 0
   Range_Domain_Maximum: 100
   Attribute_Units_of_Measure: Midpoint of the Cover Scale = Percentage (i.e. 80 = 80%)
Attribute:
 Attribute_Label: T1_HGT
 Attribute_Definition: Average height of the Emergent Tree stratum for each sample plot.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual and numerical of T1 height (whole & decimal numbers).
  Range_Domain:
   Range_Domain_Minimum: 0
   Range_Domain_Maximum: 100
   Attribute_Units_of_Measure: Range in meters (i.e. 0.5 - 1 m)
Attribute:
 Attribute_Label: T2_COVER
 Attribute_Definition: Percent cover of the Tree Canopy stratum for each sample plot.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Numerical of T2 cover (whole numbers).
  Range_Domain:

Range_Domain_Minimum: 0
Range_Domain_Maximum: 100
Attribute_Units_of_Measure: Midpoint of the Cover Scale = Percentage (i.e. 80 = 80%)
Attribute:
Attribute_Label: T2_HGT
Attribute_Definition: Average height of the Tree Canopy stratum for each sample plot.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: Textual and numerical of T2 height (whole & decimal numbers).
Range_Domain:
Range_Domain_Minimum: 0
Range_Domain_Maximum: 100
Attribute_Units_of_Measure: Range in meters (i.e. 0.5 - 1 m)
Attribute:
Attribute_Label: T3_COVER
Attribute_Definition: Percent cover of the Tree Sub-canopy stratum for each sample plot.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: Numerical of T3 cover (whole numbers).
Range_Domain:
Range_Domain_Minimum: 0
Range_Domain_Maximum: 100
Attribute_Units_of_Measure: Midpoint of the Cover Scale = Percentage (i.e. 80 = 80%)
Attribute:
Attribute_Label: T3_HGT
Attribute_Definition: Average height of the Tree Sub-canopy stratum for each sample plot.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: Textual and numerical of T3 height (whole & decimal numbers).
Range_Domain:
Range_Domain_Minimum: 0
Range_Domain_Maximum: 100
Attribute_Units_of_Measure: Range in meters (i.e. 0.5 - 1 m)
Attribute:
Attribute_Label: TEXTURE
Attribute_Definition: Average soil texture for the sample plot.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
Unrepresentable_Domain: Textual of texture description.
Attribute:
Attribute_Label: TOPO_POS
Attribute_Definition: Topographic position of each accuracy assessment point.
Attribute_Definition_Source: Field Crews
Attribute_Domain_Values:
Unrepresentable_Domain: Textual of topology position type description.
Attribute:
Attribute_Label: UTM_ZONE
Attribute_Definition: Universal Transverse Mercator Zone
Attribute_Definition_Source: GPS - Field Crews
Attribute_Domain_Values:
Enumerated_Domain:
Enumerated_Domain_Value: 12
Enumerated_Domain_Value_Definition: UTM Zone 12
Enumerated_Domain_Value_Definition_Source: All of ZION is in UTM Zone 12.
Attribute:
Attribute_Label: V_COVER

Attribute_Definition: Percent cover of the Vine/liana stratum for each sample plot.
Attribute_Definition_Source: Field Crews and NatureServe
Attribute_Domain_Values:
  Unrepresentable_Domain: Textual and numerical of V cover (whole numbers).
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Midpoint of the Cover Scale = Percentage (i.e. 80 = 80%)
Attribute:
 Attribute_Label: V_HGT
 Attribute_Definition: Average height of the Vine/liana stratum for each sample plot.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual and numerical of V height (whole & decimal numbers).
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Range in meters (i.e. 0.5 - 1 m)
Attribute:
 Attribute_Label: XDIMENSION
 Attribute_Definition: Plot width, the X dimension of the sample plot.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual and numerical of X dimension (whole numbers).
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Meters
Attribute:
 Attribute_Label: YDIMENSION
 Attribute_Definition: Plot length, the Y dimension of the sample plot.
 Attribute_Definition_Source: Field Crews and NatureServe
 Attribute_Domain_Values:
  Unrepresentable_Domain: Textual and numerical of Y dimension (whole numbers).
  Range_Domain:
    Range_Domain_Minimum: 0
    Range_Domain_Maximum: 100
    Attribute_Units_of_Measure: Meters

Distribution_Information:
 Distributor:
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    Contact_Organization: USGS Biological Resources Division, Center for Biological Informatics
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  Resource_Description: NPS Vegetation Mapping Program: Vegetation Map of Zion National Park
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 Standard_Order_Process:
  Digital_Form:
   Digital_Transfer_Information:
    Format_Name: HTML
   Digital_Transfer_Option:
    Online_Option:
     Computer_Contact_Information:
      Network_Address:
       Network_Resource_Name: http://biology.usgs.gov/npsveg/zion/fielddata.html
  Fees: None

Metadata_Reference_Information:
 Metadata_Date: 20040224
 Metadata_Review_Date: 20050524
 Metadata_Contact:
  Contact_Information:
   Contact_Organization_Primary:
    Contact_Organization: USGS-NPS Vegetation Mapping Program Coordinator
   Contact_Address:
    Address_Type: mailing and physical address
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 Metadata_Standard_Name: FGDC-STD-001.1-1999 Content Standard for Digital Geospatial Metadata, 1998 Part 1:
   Biological Data Profile, 1999
 Metadata_Standard_Version: FGDC-STD-001-1998
 Metadata_Extensions:
  Online_Linkage: http://biology.usgs.gov/fgdc.bio/bionwext.txt
  Profile_Name: Biological Data Profile FGDC-STD-001.1-1999